HQ LA ANG PHAMPHLET 33-9

20 March 2003

COMPLIANCE WITH THIS PHAMPLET IS MANDATORY

Personal Wireless Communications Systems User Handbook

1. General:

1.1. Coordinating Office. The coordinating office for the Personal Wireless Communications Systems User Handbook is the 159CF/SCM. Please forward any questions or recommendations concerning its' contents via e-mail, normal distribution, or by contacting the 159th Communications Flight (CF) Help Desk at 391-8312.

1.2. Purpose. The purpose of the handbook is to provide users with facts about Personal Wireless Communications Systems (PWCS) which include land mobile radios (LMRs), cellular telephones, pagers, repeaters, and related systems. It will enable LA ANG personnel to become familiar with the operation and administration of these devices as well as describe policy outlined in applicable regulations and provide direction for PWCS system users. In addition, it will outline procedures and individual responsibilities for the management, operation, acquisition, control, and maintenance of these systems for users statewide. This handbook will serve as the Unit PWCS and Radio Frequency Spectrum manager's handbook, and was developed as per AFI33-106, *Managing High Frequency Radios, Personal Wireless Communication Systems, and the Military Affiliate Radio System,* attachment 3. ***It is a training guide and not intended to be used as the only source of information.***

1.3. Overview of Duties. Unit PWCS and Radio Frequency Spectrum Managers are liaisons between the individual user and Base PWCS manager. Unit managers should be contacted first should any problems arise. Unit managers will resolve minor issues or contact the Base PWCS Manager for assistance. In depth maintenance will be accomplished by the Base PWCS Manager or authorized 159CF/SCM personnel only. For maintenance support, the Unit PWCS Manager or user is instructed to contact the 159th CF Help Desk at 391-8312, or when required, Mission Systems branch communications maintenance technicians at 391-8306.

1.4. Handbook Contents. The handbook divides PWCS into four sections as follows:

-Section I. Unit LMR Net Management: Covers general operating procedures, repair, procurement, administration of LMR assets, and the administration of frequencies assigned to the 159FW and Geographically Separated Units (GSUs) for radio frequency (RF) equipment use. **Note that the unit or section LMR Net Manager also assumes Radio Frequency Spectrum Manager duties. Also, the general operating procedures, repair, procurement, and administration of LMRs are applicable to cellular telephone, pagers, and related devices.**

-Section II. LMR, Cellular Telephone, and Pager inventories.

-Section III. Radio Frequency Management: Contains LA ANG frequency assignments and licenses.

-Section IV. Contains program relevant correspondence and related data.

1.5. Common System Descriptions and Related Terms.

1.5.1. Cellular Telephones. Telephones that operate on radio frequencies through cell stations without the use of land lines (cabling). They are used in situations where the user is not able to be in a predefined area having a regular switched telephone.

1.5.2. LMRs (LMR Systems). Land Mobile Radios (LMRs) are two-way communication systems consisting of base-stations, remote control units, mobile or vehicle radios, and hand-held or portable radios. These systems are designed to provide commanders with command and control capabilities that cannot be satisfied by telephone or other existing communications systems.

1.5.3. Mobile Radio. A two-way radio that is mounted in a vehicle. The vehicle supplies the unit's power.

1.5.4. Net Manager. The individual responsible for accountability of LMR assets assigned to a network and/or talk groups. This is the prime contact between the using organization and the Base Land Mobile Radio Manager (BLMRM).

1.5.5. Pager: A small compact one-way communication device used to alert or signal personnel, where one-way communication is sufficient. Should be considered as the first option for communications.

1.5.6. Portable Radio. A two-way radio small enough for personnel to carry.

1.5.7. Accessory/Ancillary Equipment. Items used in conjunction with the basic radio equipment. Examples would include batteries, antennas, microphones, speakers, etc.

1.5.8. Base Land Mobile Radio Manager (BLMRM). The person assigned by the 159th Communications Squadron Commander for overall management of base LMR systems. The BLMRM is Communication Systems Officer's (CSO) representative for any matter pertaining to acquisition, management, maintenance and operation of LMR assets. The BLMRM also acts as the chief quality assurance evaluator (QAE) for any LMR maintenance contract.

1.5.9. Base Station. A base station consists of a radio transmitter, radio receiver, antenna, microphone, control units, and interconnecting hardware. This equipment is normally installed in a fixed location and is not readily movable.

1.5.10. Communications-Systems Officer (CSO). An officer assigned to the base, usually the Communications Squadron Commander, who evaluates, validates, and approves all communications requirements.

1.5.11. Data Encryption Standard (DES). The common standard developed by the National Bureau of Standards for protecting all forms of digital communications used by Federal agencies of the US Government. Equipment developed under this standard and approved by the National Security Agency (NSA) may be used to transmit sensitive, **unclassified** voice information. Communications Security (COMSEC) procedures will be used to order, account for, and protect coding material used with DES systems regardless of classification.

1.5.12. Five Year Replacement Plan. A plan that assists in projecting a budget for LMRs. The BLMRM will provide the CSO with a report of the five-year replacement plan from the Tracking and Reference System (TRS) database based on the age of item and its' maintenance history. This report should be produced annually, well in advance of FY closeout.

1.5.13. Intrinsically Safe (IS) Radios. LMRs that are incapable of releasing sufficient electrical or thermal energy under normal or abnormal operating conditions that could cause ignition of specific hazardous mixture and air. IS radios allow safe conditions for the operations of equipment when a user is in an area where munitions, volatile gases, dust, or vapors are present. Equipment is not considered IS unless it is Factory Mutual (FM) certified. IS radios must have a preventive maintenance inspection (PMI) semi-annually. **IS radios must have an IS battery attached or they aren't IS**.

1.5.14. Radio Frequency Authorization (RFA). Basic documentation authorizing LANG sections to operate on an assigned frequency, approved by the Base Frequency Manager. To use a frequency one must have a RFA for that frequency.

1.5.15. Repeater. A fixed installation, consisting of a radio transmitter, receiver, duplexer, and antenna, which receives a signal on one frequency, amplifies it, and re-transmits it on a different frequency.

1.6. Policy.

1.6.1. All repair actions for LA ANG owned LMR equipment at the 159th FW, NAS/JRB, will be coordinated through the 159CF/SCM regardless of financial responsibility for the repair. **All LMR asset turn-ins (TIN) will be accomplished by 159CF/SCM personnel only.**

1.6.2. Lost, damaged, or destroyed LMR and related PWCS assets will be subject to a Report of Survey (ROS). Refer to AFMAN 23-220, *Report of Survey for Air Force* Property, Chapter 1, paragraph 1.2 for guidance.

1.6.3. The 159FW does not award or use any LMR maintenance contracts at this time. Maintenance is funded on an as-needed basis.

1.6.4. The 159FW does not own or operate a central base paging system. Do not confuse a central base radio paging system with the telephone paging system.

1.6.5. All intra-base telephone-paging systems are operated and maintained by the telephone maintenance branch.

1.6.6. The 159FW does not currently own or operate any DES or COMSEC equipped LMRs. This section will be changed in the future to include a briefing on COMSEC if any LMR equipment using encryption is purchased.

1.6.7. The 159FW currently operates one repeater on the MOCC frequency.

1.6.8. The current 5-year replacement plan was developed with the following guidelines:

The National Telecommunications and Information Administration (NTIA) has mandated a migration to narrowband technology in the land mobile radio frequency bands most commonly used in the Air Force. Channel spacing used in the United States and its possessions will decrease from 25khz to 12.5khz in the following bands:

162-174MHZ	1 January 2005
138-150MHZ	1 January 2008
406-420MHZ	1 January 2008

2. LMR Net Management Responsibilities:

2.1. Unit Commander. Appoints a primary and alternate Unit or section LMR Net Manager who assumes Radio Frequency (RF) Spectrum Manager duties and executes the programs as prescribed by AFI33-106 and AFI33-118, *Radio Frequency (RF) Spectrum Management*, and this handbook. Forwards a hard copy of the appointment letter to the 159CF/SCM on an annual basis and makes changes as required.

2.2. LMR Net Manager.

2.2.1 Maintains a current copy of the PWCS Manager handbook with access to AFI33-106, and AFI33-118 **(Refer to applicable Air Force websites for current AFIs).**

2.2.2. Provides initial and refresher PWCS training for all LMR users on an annual basis.

2.2.3. Informs the Base PWCS Manager (159CF/SCM) when new LMR equipment is received or when old LMR equipment is tuned in.

2.2.4. Maintains an LMR inventory that includes the make, model, serial number, user and location of each radio assigned to their network.

2.2.5. Provides the 159CF/SCM with an annual inventory listing and updates as required.

2.2.6. Ensures LMR operators use proper procedures when transmitting.

2.2.7. Ensures LMR operations are for "official business only".

2.2.8. Maintains a copy of the PWCS Customer Brief for each user and insures it is signed annually.

2.2.9. Annually reviews the PWCS handbook for content accuracy .

2.3. LMR Net Manager's Radio Frequency Spectrum Management Responsibilities.

2.3.1. Coordinates radio frequency actions, in advance, with the 159CF/SCM.

2.3.2. Complies with minimum lead times as follows:

2.3.2.1. 90 to 120 days for CONUS requests.

2.3.2.2. Not less than 1 year for OCONUS requests.

2.3.3. Requests only the minimum number of frequencies needed for mission accomplishment.

2.3.4. Maintains a frequency authorization document for each frequency assigned.

2.3.5. Advises the 159CF/SCM when frequencies are no longer required.

2.3.6. Annually reviews the PWCS handbook for content accuracy.

2.4. User Responsibilities.

2.4.1. Assumes custodial responsibility for LMR equipment used in daily operations.

2.4.2. Ensures security precautions are provided for applicable equipment. LMRs with digital encryption standard (DES) will be stored and secured in approved containers when not under the direct control of the user.

> ***Note*: Contact unit COMSEC manager for information concerning GSA approved containers.**

2.4.3. Does not loan or allow LMR equipment to be used by unauthorized personnel.

2.4.4. Uses proper procedures to establish radio communications.

2.4.5. Reports LMR equipment problems to the Unit LMR Net Manager as problems occur.

2.4.6. Annually reviews the PWCS handbook.

3. LMR Discipline and Proper Operation:

3.1. The following **considerations** are essential to the proper operation of LMR equipment.

3.1.1. Safety Hazard Areas: Do not use equipment within 50 feet of fueling points, wing tanks, oxygen points, or any area where explosives may be present. The only exception to this will be extreme emergencies where intrinsically safe (IS) LMR assets are available.

3.1.2. Bomb Threats: Do not use LMRs during a bomb threat. RF transmissions are used to activate and detonate explosive devices. Use of LMRs could lead to an unintentional detonation.

3.1.3. Do Not Monopolize an LMR Net: Keep all transmissions short and to-the-point. LMRs are not intended for long-winded transmissions.

3.1.4. Official Business Only: Do not use LMRs for anything other than official business.

3.1.5. Profanity and Obscene Language: Do not use profane or obscene language at anytime over the airwaves. This behavior is strictly prohibited and offenders are subject to disciplinary action.

3.1.6. LMR Accountability: Do not leave LMRs unattended, as this constitutes a security violation. A lost or stolen LMR compromises network integrity thereby exposing your organization to jamming or hostile monitoring of communications.

3.1.7. Equipment Care: Do not abuse LMR equipment, by such actions as picking-up radios by the antenna, hanging microphones on antennas, and wrapping microphone cables around rear view mirrors. These actions cause stress to the equipment leading to premature component failure. Protect equipment from the elements and keep it clean.

3.1.8. "Talking-Around" Classified Information: Never discuss classified information over LMRs. Use of slang or talk-around is a security violation. Use common sense when discussing sensitive information. Sensitive information may be intercepted by unauthorized personnel and will surely compromise the mission. Review your unit's Essential Elements of Friendly Information (EEFI) before discussing sensitive information.

3.1.9. The following practices are expressly forbidden.

3.1.9.1. Violation of radio silence.

3.1.9.2. Any unofficial conversation.

3.1.9.3. Excessive on-line testing and tuning.

3.1.9.4. Transmitting an operator's name or rank.

3.1.9.5. Unauthorized use of plain language in place of applicable prowords.

3.1.9.6. Linkage or compromise of classified call signs and address groups by plain language disclosures or associations with unclassified call signs.

3.2. Jamming. Always be aware of jamming and interference. If you suspect jamming or intentional interference on your network do not report it over the radio. Acknowledging the jamming or interference will give the perpetrator evidence that their efforts were successful. Rather, report the incident to your supervisor, security manager, or 159CF/SCM. Use alternate modes of communications until the situation can be resolved.

3.3. Intrinsically Safe (IS) LMRs. Personnel using IS LMR assets will inspect their equipment as follows:

3.3.1. Check battery contacts for evidence of arching.

3.3.2. Check for evidence of battery bulging or leaking.

3.3.3. Ensure the batter is securely connected to the radio housing.

3.3.4. Check the radio housing to ensure it is free from cracks and in good condition.

3.3.5. Check the condition of protective covers and gaskets.

3.3.6. Check control knobs and switches. Contact the 159CF/SCM if they bind or stick.

3.3.7. Check antenna and mounts for proper insulation and condition.

Note: Use these basic checks for all LMR equipment.

4. Personal Wireless Communications Systems (PWCS) Education:

4.1. Communications Security (COMSEC). PWCS systems are considered "radio-telephone communications". Since few of these systems are equipped with cryptographic devices, voice communication is no more secure than an ordinary telephone. In the interest of security, transmissions should be short and as concise as possible. All PWCS users must be aware that all transmissions are subject to enemy interception unless the PWCS radio or telephone is an approved digital encryption standard (DES) system.

4.2. Data Encryption Standard (DES) Systems. Only NSA approved DES equipment is authorized for purchase and use on designated DES networks. DES systems are managed in the same manner as COMSEC material. Strict accountability is required. Encryption material will be provided by the unit's COMSEC Custodian. All users will maintain maximum operational and transmission (OPSEC/TRANSEC) when using systems in the DES mode.

4.3. Meaconing, Intrusion, Jamming, and Interference (MIJI). These are areas of electromagnetic energy transmissions classified as actions to disrupt communications. All users of communications systems must know what MIJI is and what to do about it.

4.3.1. Meaconing: The system receiving radio signals and rebroadcasting them on the same frequency to confuse navigational and radio communications.

4.3.2. Intrusion: The intentional insertion of electromagnetic energy into radio signal transmission paths with the object of confusing and deceiving operators.

4.3.3. Jamming: The deliberate radiation, reradiation, or reflection of electromagnetic energy with the objective of impairing electronic, devices, equipment, and systems.

4.3.4. Interference: The unintentional radiation or emission of electromagnetic energy causing degradation, disruption, or complete obstruction of the designed function of the affected electronic equipment or system.

4.4. Take Immediate Action When Experiencing MIJI. Most MIJI is caused by interference. However, use the following procedure if experiencing MIJI symptoms.

4.4.1. Notify your supervisor or 159CF/SCM immediately.

4.4.2. Do not reveal the severity of MIJI over the airwaves due to the possibility of others monitoring your transmissions.

4.4.3. Maintain a log that contains dates and times of MIJI occurrences.

4.4.4. Make a recording of the MIJI event if possible.

4.4.5. Attempt to contact the source if the MIJI component is interference.

4.4.6. Have communications maintenance technicians confirm that the MIJI source is not faulty equipment.

4.4.7. Switch to alternate frequencies or channels and backup equipment when possible until the MIJI source can be identified.

4.5. MIJI Classification. Security classification of MIJI incidents and reports are determined by intent, location, and problem source. Users located in combat areas or having a sensitive military mission classify all MIJI incidents and reports.

4.6. Safety and Health. The Occupational Safety and Health Act (OSHA) established an electromagnetic radiation safety standard that applies to all PWCS equipment. Normal use of PWCS equipment will result in radiation exposure far below the OSHA limits. Although there have been no reported physical problems resulting from the use of PWCS, 159CF recommends the following precautions when operating equipment:

4.6.1. Do not allow a radio antenna to touch parts of the body, particularly the face, during transmissions. Hold the LMR in vertical position two inches from the mouth.

4.6.2. Do not depress the transmit button until you are ready to speak.

4.6.3. Do not operate PWCS equipment near unshielded blasting caps or in areas where explosives are present.

4.6.4. Do not allow metal objects (coins, keys, etc.) to touch battery contacts. This will cause shorts resulting in explosion of PWCS batteries

4.7. Essential Elements of Friendly Information (EEFI). EEFI are critical facts about friendly operations and activities that reveal sensitive details about capabilities and intentions. They must not be discussed over non-secure PWCS where unauthorized personnel have access to EEFI data. Alone, each item of EEFI listed below is unclassified. However, when combined an enemy interceptor can piece together a plan or operation. EEFI includes but is not limited to the following:

4.7.1. Status of training and combat readiness.

4.7.2. Mission critical data relating to aircraft.

4.7.3. MIJI effectiveness.

4.7.4. Command, control, and communications countermeasures strategy (C3CM) capabilities.

4.7.5. Command and control capabilities and procedures.

4.7.6. Decrease in combat readiness.

4.7.7. Mobilization capability.

4.7.8. Unit Type Code (UTC) associated with an operation.

4.7.9. Unit Recall Data.

5. <u>PWCS In a Deployed Status</u>:

5.1. Prior to Departure. Units scheduled to deploy must accomplish the following a minimum of 30 days prior to departure:

5.1.1. Acquire an approval to use PWCS assets from the CONUS or OCONUS host base.

5.1.2. Submit a request to the 159CF/SCM for frequency clearance as per paragraph 2.3 of this handbook to include the following:

5.1.2.1. Deployed PWCS equipment required.

5.1.2.2. Frequencies or channel requirements.

5.1.2.3. Period of PWCS operation to include days and hours, etc.

5.1.2.4. Operating unit.

5.1.2.5. Deployed location to include city, state, and country.

5.1.2.6. Type of network (CES, maintenance, etc).

5.1.2.7. Antenna type, coordinates, gain, and elevation.

5.1.2.8. Requestor data to include name, rank, and contact information.

5.1.3. The Unit LMR Manager will accomplish the following prior to deployment:

5.1.3.1. Have the 159CF/SCM re-channelize or load frequencies in deploying LMR equipment if required. LMRs requiring re-channelizing or frequencies to be loaded, must be delivered to 159CF/SCM a minimum of 15 days prior to departure.

5.1.3.2. Charge radio batteries, turn-off radios, and pack them in approved containers for mobility processing.

5.2. Arrival at Deployed Location. The Unit LMR Net Manager will accomplish the following:

5.2.1. Account for all LMR and related PWCS assets.

5.2.2. Ensure operators use proper call signs. Delete a specific call sign in the event of the capture or loss of personnel.

6. How to Operate the LMR:

6.1. Ensure your channel is clear.

6.2. Use Call-Signs: Call the distant end or receiver *stating their call-sign* and identify yourself by *your call-sign*.

6.3. Know what you want to say prior to each transmission. Use "Prowords" (See paragraph 8) for brevity. Never use names, ranks, and never link a location with a code word.

6.4. Keep transmissions short and to-the-point. Use the word "Over" each time you complete a transmission.

6.5. Upon completing a conversation say the word "Out". This tells the receiver you will terminate the call.

6.6. Refer to the following paragraphs **7 – 10**, for the details on the proper operations of LMRs.

7. The Phonetic Alphabet:

LETTER	*PHONETIC*	*PRONUNCIATION*
A	**Alpha**	**AL FAH**
B	**Bravo**	**BRAH VOH**
C	**Charlie**	**CHAR LEE**
D	**Delta**	**DELL TAH**
E	**Echo**	**ECK KOH**
F	**Foxtrot**	**FOKS TROT**
G	**Golf**	**GOLF**
H	**Hotel**	**HOH TELL**
I	**India**	**IN DEE AH**
J	**Juliet**	**JWE LEE ETT**
K	**Kilo**	**KEE LOH**
L	**Lima**	**LEE MAH**

M	**Mike**	**MIKE**
N	**November**	**NO VEM BER**
O	**Oscar**	**OSS CAH**
P	**Papa**	**PAH PAH**
Q	**Quebec**	**KEW BECK**
R	**Romeo**	**ROW ME OH**
S	**Sierra**	**SEE AIR RAH**
T	**Tango**	**TANG GO**
U	**Uniform**	**YOU NEE FORM**
V	**Victor**	**VIK TAH**
W	**Whiskey**	**WIS KEY**
X	**X-ray**	**ECKS RAY**
Y	**Yankee**	**YANG KEY**
Z	**Zulu**	**ZOO LOO**

8. Numerals:

NUMBER	PHONETIC	PRONUNCIATION
1	**One**	**WUN**
2	**Two**	**TOO**
3	**Three**	**TREE**
4	**Four**	**FOW ER**
5	**Five**	**FIFE**
6	**Six**	**SIX**
7	**Seven**	**SEVEN**
8	**Eight**	**AIT**
9	**Nine**	**NINE ER**
0	**Zero**	**ZEE ROW**

Note: Numbers will be transmitted digit-to-digit. The following are examples.

20 = TOO ZEE ROW

315 = TREE WUN FIFE

500 = FIFE ZERO ZERO

9. <u>Prowords</u>: Used for brevity in radio communications.

Report of Signal Strength

Prowords	***Meaning***
Radio Check	What is my signal strength and reliability (How do you hear me)?
Loud	Signal strength very strong.
Good	Signal strength good.
Weak	Signal strength weak.
Very Weak	Signal strength very weak.
Fading	At times your signal strength weakens to such an extent that continuous reception cannot be replied upon.

Report of Reliability

Prowords	***Meaning***
Clear	Excellent quality.
Readable	Quality is satisfactory.
Unreadable	Quality of transmission is so poor I cannot understand you.
Distorted	Having trouble understanding you due to distortion.
Interference	Having trouble understanding you due to interference.

General

Prowords	***Meaning***
Correct	You are correct or what you have transmitted is correct.
Correction	An error has been made in this transmission.
Disregard this transmission--out	Transmission in error. Disregard. Signing off.
Figures	Numerals or numbers to follow.
I Say Again	I am retransmitting a message or portion of a message.
I Spell	I shall spell the next word phonetically.
I Verify	That which follows has been verified at your request and is repeated.
Out	This is the end of my transmission and no answer is required.
Over	This is the end of my transmission. Go ahead and transmit.
Read Back	Repeat entire transmission back to me exactly as stated.
Roger	I have received your last transmission satisfactorily.
Say Again	Repeat your last transmission.
Silence (Repeat three times)	Cease transmission on your network immediately.
Speak Lower	Your transmission speed is to fast. Slow down so I can understand you.
Wait	I must pause for a few seconds.
Wait—Out	I must pause longer than a few seconds.
Wilco	I have received your message, understand it, and will comply.
Word Twice	Communication is difficult. Transmit each word or phrase twice.
Wrong	Your last transmission was incorrect.

10. <u>Call-Signs</u>:

In accordance with ACP-125 (F) Communications Instructions-Radiotelephone Procedures and AFKAO-01, the following Radio Net Call-Signs are established and recommended for operations:

Note: All Users are encouraged to tailor your call-signs to satisfy mission requirements. LMR Net Managers will provide the 159CF/SCM with updated call-signs whenever changes are made.

NET or USER	CALL-SIGN OR TABLE
AVIONICS	D
BASE OPS & RAMP CONTROL	I
BASE SUPPLY	G
CIVIL ENGINEERING	C
COMMUNICATIONS	YODA
DISASTER PREPAREDNESS	B
FIRE DEPARTMENT	CRASH
MAINTENANCE CONTROL	D
MEDICAL	BANDAID
MOBILITY	E
MOTOR POOL	F
MUNTIONS MAINTENANCE	D
POL	J
SECURITY FORCES	H
WEAPONS	D

A. Call-Signs for COMMAND & CONTROL NET

NET or USER	CALL-SIGN
COMMAND POST	EAGLE CONTROL
WING COMMANDER	EAGLE 01
VICE COMMANDER	EAGLE 02
OPERATIONS GROUP COMMANDER	EAGLE 03
LOGISTICS	EAGLE 04
SUPPORT GROUP COMMANDER	EAGLE 05
MISSION SUPPORT FLIGHT COMMANDER	EAGLE 06
MAINTENANCE SQUADRON COMMANDER	EAGLE 07
MEDICAL SQUADRON COMMANDER	EAGLE 08
WING COMMANDER'S SECRETARY	EAGLE 10
SURVIVAL RECEOVERY CENTER (SRC)	EAGLE 20

B. Call-Signs for DISASTER PREPAREDNESS (DP) NET

NET or USER	CALL-SIGN
DP CONTROL	DELTA CONTROL
DP MOBILE COMMAND POST	DELTA MOBILE
ON SCENE COMMANDER	DELTA 01
ALTERNATE ON SCENE COMMANDER	DELTA 02
DP REPRESENTATIVE	DELTA 03
ALTERNATE DP REPRESENTATIVE	DELTA 04

C. Call-Signs for CIVIL ENGINEERING NET

NET or USER	CALL-SIGN
FACILITIES CHIEF	FACILITY 1
UTILITIES CHIEF	UTILITY 1
DAMAGE ASSESSMENT & REPAIR TEAMS	DART 1 – 12
AIRFIELD DAMAGE ASSESSMENT TEAMS	ADAT 1 – 12
RAPID RUNWAY REPAIR OIC	RRR 1
RAPID RUNWAY REPAIR NCOIC	RRR 2
RAPID RUNWAY REPAIR DCC REP	RRR 3
RAPID RUNWAY REPAIR CRATER CHIEF	CRATER 1
RAPID RUNWAY REPAIR STOCKPILE CHIEF	STOCKPILE 1
ELECTRIC TEAMS	ELECTRIC 1 – 6
POWER PRO/BARRIER TEAMS 1 – 3	POWER 1 – 3
AIRFIELD LIGHTING TEAM	LIGHTING 1
MOBILE AIRCRAFT ARRESTING SYSTEM TEAM	MOBILE 1
MINIMUM OPERATING STRIP PLOTTING TEAM	MOS
DAMAGE CONTROL CENTER (DCC)	BULLDOG 1
CE REP @ SURVIVAL RECOVERY CENTER (SRC)	SUNRISE 1
ALTERNATE DAMAGE CONTROL CENTER	BULLDOG 2

D. Call-Signs for AIRCRAFT MAINTENANCE NETS

NET or USER	CALL-SIGN
WING COMMANDER	EAGLE 1
LOGISTICS GROUP COMMANDER	EAGLE 4
MAINTENANCE CONTROL SUPERVISOR	MOC SUPER
MAINTENANCE OPERATIONS CONTROL CENTER (MOCC)	MOC
QUALITY ASSURANCE (QA) SUPERVISOR	QA SUPER
QUALITY ASSURANCE (QA)	QA
RESOURCE MONITOR	GATOR
MOBILITY	MOBILITY 1
AIRCRAFT GENERATION SQUADRON (AGS) COMMANDER	SUPER 1
AIRCRAFT GENERATION SQUADRON (AGS) OFFICER	SUPER 2

AIRCRAFT GENERATION SQUADRON (AGS) CHIEF	SUPER 3
PRODUCTION SUPERVISOR	PRO SUPER
EXPEDITER	ROVER 1
FOLLOW-ME TRUCK	ROVER 3
END-OF-RUNWAY TRUCK	ROVER 5
A-FLIGHT SUPERVISOR	HANDY 2
B-FLIGHT SUPERVISOR	HANDY 3
C-FLIGHT SUPERVISOR	HANDY 5
DOCK SUPERVISORS	DOCKS
COMBAT TURNS (CBT) SUPERVISOR	CBT 1 – 8
FLIGHT LINE SUPERVISOR	AVIONICS SUPER
FLIGHT LINE BASE STATION	AVIONICS BASE
TRUCK 1	AVIONICS 1
TRUCK 2	AVIONICS 2
TRUCK 3	AVIONICS 3
WEAPONS SUPERVISOR	WEAPONS SUPER
WEAPONS TRUCK	ROVER 4
LOAD STANDARDIZATION CREW	LSC
RELEASE SHOP	RELEASE SHOP
GUN SHOP	GUN SHOP
MAINTENANCE SQUADRON COMMANDER	MAINTENANCE 1
MAINTENANCE OFFICER	MAINTENANCE 2
COMPONENT REPAIR CHIEF	MAINTENANCE 3
PROPULSION SUPERVISOR	ENGINE 1
ENGINE SUPERVISOR	ENGINE 2
HUSH HOUSE SUPERVISOR	ENGINE 3
ACCESSORY SYSTEMS SUPERVISOR	ACCESSORIES
HYDRAULICS SHOP	HYDRAULICS
TIRE SHOP	R&R
ELECTRIC/ENVIRONEMENTAL SHOP	ELECTRICS
FUEL SHOP	FUELS
EGRESS SHOP	EGRESS
EQUIPMENT REPAIR SHOP	MAINTENANCE 4
FABRICATION SUPERVISOR	FABRICATION
SHEET METAL SHOP	SHEET METAL
AGE SUPERVISOR	AGE SUPER
AGE SHOP	AGE
MUNTIONS SUPERVISOR	MUNITIONS SUPER
MUNITIONS DUMP	DUMP SUPER
MUNITIONS HOLD SUPERVISOR	MUNITIONS HOLD
AMMO TRUCKS 1 –8	AMMO 1 - 8

E. Call-Signs for MOBILITY NET

NET or USER	CALL-SIGN
DEPLOYMENT CONTROL CENTER (DCC)	MOBILITY CONTROL
CARGO PROCESSING CENTER (CPC)	CARGO
PERSONNEL DEPLOYMENT FUNCTION (PDF)	PAX
BAGGAGE HANDLERS	BAGGAGE
DEPLOYMENT VEHICLE OPERATIONS	CAR
RAMP RAT 1	RAMP 1
RAMP RAT 2	RAMP 2
RAMP RAT 3	RAMP 3
LOGISTICS OIC	BUD
LOGISTICS NCOIC	BUD LITE
RUNNER/ADMIN 1	RUN 1
RUNNER 2/ADMIN	RUN 2
LOAD TEAM CHIEF	LOADER
LOAD TEAM ONE	LOADER 1
LOAD TEAM TWO	LOADER 2
LOAD TEAM THREE	LOADER 3
LOAD TEAM FOUR	LOADER 4

F. Call-Signs for MOTOR POOL NET

NET or USER	CALL-SIGN
VEHICLE OPERATIONS	ROAD WARRIOR
VEHICLE MAINTENANCE	GOODWRENCH
TRANSPORTATION CONTROL CENTER	TCC

G. Call-Signs for SUPPLY NET

NET or USER	CALL-SIGN
LS COMMANDER	LOG 1
COMBAT SUPPLY ACTIVITY	CSA 1
COMBAT SUPPY ACTIVITY OIC	CSA 2
COMBAT SUPPLY ACTIVITY NCOIC	CSA 3

H. Call-Signs for SECURITY FORCES NET

NET or USER	CALL-SIGN
LAW ENFORCEMENT	POLICE
CENTRAL SECURITY CONTROL (CSC)	CSC
DEPLOYED EXERCISE CALL-SIGN	DEFENDER

CALL-SIGNS FOR NORMAL BASE OPERATIONS

NET or USER	CALL-SIGN
COMMANDER	SECURITY 1
SUPERINTENDANT	SECURITY 2
NCOIC	SECURITY 3
UNIT TRAINING NCO	TRAINING 1
QUALITY CONTROL	QC 1
OPERATIONS NCO	OPS 1
CATM NCOIC	CATM 1
CATM INSTRUCTORS 2 – 4	CATM 2 – 4
LAW ENFORCEMENT SUPERINTENDANT	POLICE 1
LAW ENFORCEMENT NCOIC	POLICE 2
LAW ENFORCEMENT PATROL 3 – 7	POLICE 3 – 7
ORDERLY ROOM NCOIC	ADMIN 1
ORDERLY ROOM CLERK	ADMIN 2
ADMINISTRATION CLERK	ADMIN 3
UNIT SUPPLY NCOIC	SUPPLY 1
UNIT SUPPLY NCO	SUPPLY 2
MOBILITY NCOIC	MOBILITY 1
FLIGHT LINE PATROL	FOXTROT

I. Call-Signs for BASE OPERATIONS

NET or USER	CALL-SIGNS
BASE OPERATIONS	JAZZ OPS
SUPERVISOR OF FLYING	SOF
OPERATIONS SUPERVISOR	OPS SUPER
SQUADRON OPERATIONS CENTER	SOC
SQUADRON COMMANDER	JAZZ 1
OPERATIONS OFFICER	JAZZ 2
OPERATIONS NCOIC	JAZZ 3
ALTERNATE SOC	ALT SOC
OPERATIONS SECURITY POST	GUARD DOG

J. Call-Signs for POL

NET or USER	CALL-SIGNS
POL 1 – 12	POL 1 - 12

11. <u>PWCS POCs</u>:

Base PWCS Manager	CMSgt Louis Bernard	X8302, 391-8302, DSN 457-8302
Asst. Base PWCS Manager	MSgt Dwayne Lonadier	X8306, 391-8306, DSN 457-8306
CSO	Capt Arthur Troncoso	X8501, 391-8501, DSN 457-8501
Help Desk	159th Comm Flight	X8312, 391-8312, DSN 457-8312
All Communications Requirements	MSgt Ed Magri	X8314, 391-8314, DSN 457-8314
COMSEC	MSgt Tiffanni Beckham	X8311, 391-8311, DSN 457-8311
OPSEC	Maj Jim Howington	X8628, 391-8628, DSN 457-8628
159FW Safety Office	SMSgt Don Chauvin	X8647, 391-8647, DSN 457-8647
Base Contracting	CMSgt Mark Blanco MSgt Rod Blouin	X8370, 391-8370, DSN 457-8370 X8371, 391-8371, DSN 457-8371

Equipment Management	TSgt Henry Ritchey	X8551, 391-8551, DSN 457-8551
Motorola Federal Government Parts	For Ordering Ancillary Items Only (Use your IMPAC)	1-800-826-1913
Motorola Federal Government Sales	For PWCS Systems Sales: Mr. Robert Joyner	Tel: 850-934-7371 Fax: 850-934-0173 E-mail: robert.joyner@motorola.com
TOMBA Communications	For Local Services and Warranty	504-340-2448

12. <u>References</u>:

AFI 10-404	Base Support and Expeditionary Site Planning (Contingency Planning)
AFI 10-707	Spectrum Interference Resolution Program
AFMAN 23-110	USAF Supply Manual
AFMAN 23-220	Reports of Survey for Air Force Property
AFI 33-103	Requirements Development & Processing
AFI 33-106	Managing High Frequency Radios, Personal Wireless Communication Systems, and the Military Affiliate Radio System
AFI 33-111	Telephone Systems Management
AFI 33-118	Radio Frequency (RF) Spectrum Management
AFI 33-211	Communications Security (COMSEC) User Requirement
AFI 33-212	Reporting COMSEC Deviations
AFI 33-215	Controlling Authorities for COMSEC Keying Material (KEYMAT)
AFI 33-219	Telecommunications Monitoring and Assessment Program (TMAP)

Note: Refer to **www.hafdash1.hq.af.mil/url_frames.cfm?url=http://afpubs.hq.af.mil** for current AFI.

13. Net Restoration Priority:

This restoration list will be followed in the case of multiple LMR outages occurring simultaneously.	
1.	**Security Forces**
2.	**CES**
3.	**MS/AGS**
4.	**Medical**
5.	**Readiness**
6.	**Commanders Net/Operations**
7.	**Communications**
8.	**Transportation**
9.	**Supply**
10.	**Wing Plans**

**** FOR OFFICIAL USE ONLY ****

Personal Wireless Communications Systems Customer Briefing

This briefing is intended to inform users of their responsibilities regarding PWCS use.

Security

Land mobile radios are not to be used for operational communications that may be considered sensitive or For Official Use Only (FOUO). The weak land mobile radio signal is susceptible to jamming, intrusion, interference and monitoring.

Fraud, Waste and Abuse

Using a government land mobile radio for other than official government business is considered fraud, waste, and abuse.

I will not discuss classified or sensitive information on a land mobile radio. I understand that land mobile radios are subject to monitoring and the use of a land mobile radio constitutes consent to monitoring. I will limit land mobile radio use to brief official communications at all times.

Responsibilities
I assume custodial responsibility for all PWCS equipment in my possession.

I will ensure necessary security protection is provided for equipment. LMRs with Data Encryption Standard (DES) capability will be secured in approved containers when not under my direct control.

I will not loan PWCS equipment to unauthorized personnel or allow them to use the equipment.

I will use the proper procedures to establish radio communications.

If equipment malfunctions, I will not attempt to adjust or repair it. I will report the problem immediately to my unit PWCS Manager, who will forward it to the Communications Flight for repair/service.

I will annually review the 159th[t]PWCS Handbook.

User Signature: _____Date:_____

1. <u>LMR Net Manager's Radio Frequency Spectrum Management Responsibilities</u>.

1.1. Coordinates radio frequency actions, in advance, with the 159CF/SCM.

1.2. Complies with minimum lead times as follows:

1.2.1. 90 to 120 days for CONUS requests.

1.2.2. Not less than 1 year for OCONUS requests.

1.3. Requests only the minimum number of frequencies needed for mission accomplishment.

1.4. Maintains a frequency authorization document for each frequency assigned.

1.5. Advises the 159CF/SCM when frequencies are no longer required.

1.6. Annually reviews the PWCS handbook for content accuracy.

2. Meaconing, Intrusion, Jamming, and Interference (MIJI). These are areas of electromagnetic energy transmissions classified as actions to disrupt communications. All users of communications systems must know what MIJI is and what to do about it.

2.1. Meaconing: The system receiving radio signals and rebroadcasting them on the same frequency to confuse navigational and radio communications.

2.2. Intrusion: The intentional insertion of electromagnetic energy into radio signal transmission paths with the object of confusing and deceiving operators.

2.3. Jamming: The deliberate radiation, reradiation, or reflection of electromagnetic energy with the objective of impairing electronic, devices, equipment, and systems.

2.4. Interference: The unintentional radiation or emission of electromagnetic energy causing degradation, disruption, or complete obstruction of the designed function of the affected electronic equipment or system.

3. Take Immediate Action When Experiencing MIJI. Most MIJI is caused by interference. However, use the following procedure if experiencing MIJI symptoms.

3.1. Notify your supervisor or 159CF/SCM immediately.

3.2. Do not reveal the severity of MIJI over the airwaves due to the possibility of others monitoring your transmissions.

3.3. Maintain a log that contains dates and times of MIJI occurrences.

3.4. Make a recording of the MIJI event if possible.

3.5. Attempt to contact the source if the MIJI component is interference.

3.6. Have communications maintenance technicians confirm that the MIJI source is not faulty equipment.

3.7. Switch to alternate frequencies or channels and backup equipment when possible until the MIJI source can be identified.

4. MIJI Classification. Security classification of MIJI incidents and reports are determined by intent, location, and problem source. Users located in combat areas or having a sensitive military mission classify all MIJI incidents and reports.

5. Frequency Spectrum Manager POCs:

Installation Spectrum Manager (ISM)	CMSgt Louis Bernard	X8302, 391-8302, DSN 457-8302
Asst. ISM	MSgt Dwayne Lonadier	X8306, 391-8306, DSN 457-8306
NAS/JRB ISM (Navy)	Chief Mullins Sr. Chief Flannery	678-3182 678-3106
AFRES	Mr. Steve Dixon	678-3063
ANG/C4CR (ANGRC)	MSgt Ray Abbott	301-836-8633, DSN 278-8633 ray.abbott@ang.af.mil
ANG/C4CR (ANGRC)	MSgt Denise Williams	301-863-8632, DSN 278-8632 williamsD2@ang.af.mil
Gulf Area Frequency Coordinator (GAFC)	Mr. Lee Vanderpool	850-882-4416, X458 Fax: 850-882-4202 Leland.vanderpool@eglin.af.mil
CSO	Capt Arthur Troncoso	X8501, 391-8501, DSN 457-8501
Help Desk	159th Comm Flight	X8312, 391-8312, DSN 457-8312
All Communications	MSgt Ed Magri	X8314, 391-8314, DSN 457-8314

Requirements		
COMSEC	MSgt Tiffanni Beckham	X8311, 391-8311, DSN 457-8311
159FW Radiation Protection Officer	MSgt Thomas Pellegrin	X8516, 391-8516, DSN 457-8516

6. <u>References</u>:

AFI 10-707	Spectrum Interference Resolution Program
AFI 33-103	Requirements Development and Processing
AFI 33-106	Managing High Frequency Radios, Personal Wireless Communication Systems, and the Military Affiliate Radio System
AFI 33-118	Radio Frequency (RF) Spectrum Management
AFI 33-211	Communications Security (COMSEC) User Requirement
AFI 33-212	Reporting COMSEC Deviations

Note: Refer to **www.hafdash1.hq.af.mil/url_frames.cfm?url=http://afpubs.hq.af.mil** for current Air Force Instructions.

Procedures for demilitarizing LMR assets

Crystal controlled equipment-
All crystals will be removed from equipment and discarded

Software programmable equipment-
Program all channels back to factory default frequencies if possible. Otherwise, program

to receive only on weather channel, 162.550mhz